

Analytical Data Package Prepared For

Fluor Hanford Inc.

Radiochemical Analysis By

STL Richland**2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.**

Assigned Laboratory Code: STLRL

Data Package Contains 6 Pages

Report No.: 34947

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W05131	F07-011	B1LTY8	J7C020174-1	JQDMT1AD	9JQDMT10	7061238
		B1LTY8	J7C020174-1	JQDMT1AC	9JQDMT10	7064478
		B1LTY8	J7C020174-1	JQDMT1AF	9JQDMT10	7064479
		B1LTY8	J7C020174-1	JQDMT1AE	9JQDMT10	7064480
		B1LTY8	J7C020174-1	JQDMT1AH	9JQDMT10	7064482
		B1LTY8	J7C020174-1	JQDMT3AA	9JQDMT30	7089254

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APR 30 2007

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AUG 01 2007
EDMC

**STL**

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2800 George Washington Way
Richland, WA 99354

Tel: 509 375 3131 Fax: 509 375 5590
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Certificate of Analysis

Fluor Hanford, Inc.
1200 Jadwin Ave.
Richland, WA 99352

April 13, 2007

Attention: Steve Trent

SAF Number	:	F07-011
Date SDG Closed	:	March 1, 2007
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W05131
Data Deliverable	:	45/45 Day

CASE NARRATIVE

I. Introduction

On March 1, 2007 one sample was received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the sample was assigned to lot J7C020174 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

<u>FH ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
BILTY8	JQDMT	WATER	3/1/07

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

April 13, 2007

The requested analyses were:

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014

Gross Beta by method RICH-RC-5014

Strontium-90 by method RICH-RC-5006

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065

Tritium by method RICH-RC-500

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014:

The laboratory technician forgot to scan the barcode for the LCS vial in batch 7064480. It was noted that ASD vial was to be used for the LCS. The average of ten ASD expected values, which were processed during the same time frame as batch 7064480, was calculated. The calculated expected value was then used as the expected value for the LCS in batch 7064480. Except as noted, the LCS, batch blank, sample and sample duplicate (B1LTY8) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

Sample (B1LTY8) and sample duplicate (B1LTY8 DUP) were not within acceptance limits on the first analysis. Sample (B1LTY8) and sample duplicate (B1LTY8 DUP) were recounted but the results were still not within acceptance limits. The entire batch was reanalyzed. Sample (B1LTY8) and sample duplicate (B1LTY8 DUP) were reanalyzed with reduced aliquots due to insufficient sample remaining. Except as noted, the LCS, batch blank, sample and sample duplicate (B1LTY8) results are within contractual requirements.

Gas Proportional Counting

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1LTY8) results are within contractual requirements.

April 13, 2007

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1LTY8), and sample matrix spike (B1LTY8) results are within contractual requirements.

Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1LTY8) results are within contractual requirements.

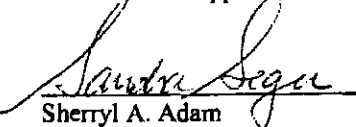
Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B1LTY8), sample matrix spike (B1LTY8), and matrix spike duplicate results (B1LTY8) are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


for Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,...)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) u_c - Combined Uncertainty.	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c the combined uncertainty. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin}) / \text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC/MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin}) / \text{SCntMin}) + 2.71 / \text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary
STL Richland STLRL
 Ordered by Client Sample ID, Batch No.

Date: 13-Apr-07

Report No. : 34947

SDG No: W05131

Client ID	Work Order Number	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC MDA	RPD
B1LTY8	JQDMT1AD	HEXCHROME	2.00E-03 +/- 0.00E+00	U	mg/L	N/A	2.00E-03	
	JQDMT1AT	HEXCHROME	2.00E-03 +/- 0.00E+00	U	mg/L	N/A	2.00E-03	0.0
B1LTY8	JQDMT1AC	H-3	1.70E+04 +/- 8.08E+02		pCi/L	100%	3.27E+02	
B1LTY8	JQDMT1AF	TC-99	5.45E+01 +/- 8.88E+00		pCi/L	100%	1.00E+01	
B1LTY8	JQDMT1AE	ALPHA	-3.82E-02 +/- 7.96E-01	U	pCi/L	100%	2.38E+00	
B1LTY8	JQDMT1AH	STRONTIUM	1.34E-01 +/- 5.45E-01	U	pCi/L	93%	1.19E+00	
B1LTY8	JQDMT3AA	BETA	1.90E+01 +/- 4.52E+00		pCi/L	100%	3.65E+00	
B1LTY8 DUP	JQDMT1AU	H-3	1.65E+04 +/- 7.91E+02		pCi/L	100%	3.26E+02	2.7
B1LTY8 DUP	JQDMT1AW	TC-99	5.11E+01 +/- 8.68E+00		pCi/L	100%	1.00E+01	6.3
B1LTY8 DUP	JQDMT1AX	ALPHA	1.38E+00 +/- 1.34E+00	U	pCi/L	100%	2.13E+00	211.4
B1LTY8 DUP	JQDMT1A1	STRONTIUM	-1.62E-01 +/- 5.18E-01	U	pCi/L	93%	1.18E+00	-2075.7
B1LTY8 DUP	JQDMT3A0	BETA	1.83E+01 +/- 3.76E+00		pCi/L	100%	3.45E+00	3.8

Number of Results: 12

STL Richland rptSTLRchSaSum V5.1 A2002 RPD - Relative Percent Difference.
 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not Identified by gamma scan software.

QC Results Summary
STL Richland STLRL
 Ordered by QC Type, Batch No.

Date: 13-Apr-07

Report No. : 34947

SDG No.: W05131

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC/MDA
MATRIX SPIK	JQDMT1AQ	HEXCHROME	2.70E-01 +- 0.00E+00		mg/L	N/A	104%	0.0	2.00E-03
MATRIX SPIK	JQDMT1AR	HEXCHROME	2.70E-01 +- 0.00E+00		mg/L	N/A	104%	0.0	2.00E-03
MATRIX SPIK	JQDMT1AV	TC-99	2.89E+03 +- 1.78E+02		pCi/L	100%	80%	-0.2	9.98E+00
BLANK QC	JQG9F1AA	H-3	4.19E+01 +- 1.54E+02	U	pCi/L	100%			3.26E+02
BLANK QC	JQG9F1AD	H-3	-1.36E+02 +- 1.47E+02	U	pCi/L	100%			3.35E+02
BLANK QC	JQG9G1AA	TC-99	5.70E+00 +- 6.12E+00	U	pCi/L	100%			1.00E+01
BLANK QC	JQG9H1AA	ALPHA	3.95E-02 +- 5.78E-01	U	pCi/L	100%			1.54E+00
BLANK QC	JQG9K1AA	STRONTIUM	3.45E-02 +- 5.47E-01	U	pCi/L	80%			1.22E+00
BLANK QC	JR3WX1AA	BETA	2.83E-01 +- 1.21E+00	U	pCi/L	100%			2.64E+00
LCS	JQG9F1AC	H-3	2.44E+03 +- 2.54E+02		pCi/L	100%	90%	-0.1	3.25E+02
LCS	JQG9F1AE	H-3	2.41E+03 +- 2.55E+02		pCi/L	100%	89%	-0.1	3.34E+02
LCS	JQG9G1AC	TC-99	5.06E+02 +- 3.51E+01		pCi/L	100%	93%	-0.1	9.97E+00
LCS	JQG9H1AC	ALPHA	2.47E+01 +- 5.03E+00		pCi/L	100%	108%	0.1	1.22E+00
LCS	JQG9K1AC	STRONTIUM	2.79E+01 +- 7.60E+00		pCi/L	79%	104%	0.0	1.28E+00
LCS	JR3WX1AC	BETA	2.09E+01 +- 4.52E+00		pCi/L	100%	93%	-0.1	2.38E+00
LCS	JQD201AC	HEXCHROME	5.10E-01 +- 0.00E+00		mg/L	N/A	102%	0.0	2.00E-03
BLANK QC	JQD201AA	HEXCHROME	2.00E-03 +- 0.00E+00	U	mg/L	N/A			2.00E-03

Number of Results: 17

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by
 V5.1 A2002 gamma scan software.

FORM I SAMPLE RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Collection Date: 3/1/2007 9:41:00 AM

Lot-Sample No.: J7C020174-1

Report No.: 34947

Received Date: 3/1/2007 3:40:00 PM

Client Sample ID: B1LTY8

COC No.:

Matrix: WATER

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7081238 HEXCHROME	Work Order: JQDMT1AD 2.00E-03	U		Report DB ID: 9JQDMT10 0.0E+00	2.00E-03	mg/L	N/A	1. N/A	3/2/07		100.0 ML	7196_CR6
Batch: 7064478 H-3	Work Order: JQDMT1AC 1.70E+04		4.5E+02	Report DB ID: 9JQDMT10 8.1E+02	3.27E+02	pCi/L	100%	(51.9) (42.)	3/13/07 05:37 p		0.005 L	906.0_H3_LSC LSC4
Batch: 7064479 TC-99	Work Order: JQDMT1AF 5.45E+01		5.7E+00	Report DB ID: 9JQDMT10 8.9E+00	1.00E+01	pCi/L	100%	(5.4) (12.3)	3/19/07 09:15 p		0.1251 L	TC99_SEP_LSC LSC7
Batch: 7064480 ALPHA	Work Order: JQDMT1AE -3.82E-02	U	8.0E-01	Report DB ID: 9JQDMT10 8.0E-01	2.38E+00	pCi/L	100%	-0.02 -0.1	3/28/07 07:35 a		0.1998 L	RICHRCS014 GPC12A
Batch: 7064482 STRONTIUM	Work Order: JQDMT1AH 1.34E-01	U	5.4E-01	Report DB ID: 9JQDMT10 5.5E-01	1.19E+00	pCi/L	93%	0.11 0.49	3/12/07 06:16 p		0.4993 L	SRTOT_SEP_PRECIP GPC31A
Batch: 7089254 BETA	Work Order: JQDMT3AA 1.90E+01		2.8E+00	Report DB ID: 9JQDMT30 4.5E+00	3.65E+00	pCi/L	100%	(5.2) (8.4)	4/2/07 04:33 p		0.1521 L	9310_ALPHABETA_G GPC31A

Number of Results: 6

Comments:

STL Richland MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.
 V5.1 A2002

FORM II

Date: 13-Apr-07

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W05131

Collection Date: 3/1/2007 9:41:00 AM

Lot-Sample No.: J7C020174-1

Report No. : 34947

Received Date: 3/1/2007 3:40:00 PM

Client Sample ID: B1LTY8

COC No. :

Matrix: WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7061238	Work Order: JQDMT1AT			Report DB ID: JQDMT1TR		Orig Sa DB ID: 9JQDMT10						
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1.	3/2/07		100.0	7196_CR6
	2.00E-03	U	RPD	0.0				N/A			ML	

Number of Results: 1

Comments:

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV5.1 MDC|MDA,Le - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 13-Apr-07

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W05131

Collection Date: 3/1/2007 9:41:00 AM

Lot-Sample No.: J7C020174-1

Report No.: 34947

Received Date: 3/1/2007 3:40:00 PM

Client Sample ID: B1LTY8 DUP

COC No.:

Matrix: WATER

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7064478	Work Order: JQDMT1AU				Report DB ID: JQDMT1UR	Orig Sa DB ID: 9JQDMT10						
H-3	1.65E+04		4.4E+02	7.9E+02	3.26E+02	pCi/L	100%	(50.7)	3/13/07 05:37 p		0.005	906.0_H3_LSC
	1.70E+04	RPD	2.7			4.00E+02		(41.8)			L	LSC4
Batch: 7064479	Work Order: JQDMT1AW				Report DB ID: JQDMT1WR	Orig Sa DB ID: 9JQDMT10						
TC-99	5.11E+01		5.7E+00	8.7E+00	1.00E+01	pCi/L	100%	(5.1)	3/19/07 09:15 p		0.1254	TC99_SEP_LSC
	5.45E+01	RPD	6.3			1.50E+01		(11.8)			L	LSC7
Batch: 7064480	Work Order: JQDMT1AX				Report DB ID: JQDMT1XR	Orig Sa DB ID: 9JQDMT10						
ALPHA	1.38E+00	U	1.3E+00	1.3E+00	2.13E+00	pCi/L	100%	0.65	3/28/07 07:35 a		0.2021	RICHR05014
	-3.82E-02	U RPD	211.4			3.00E+00		(2.1)			L	GPC12B
Batch: 7064482	Work Order: JQDMT1A1				Report DB ID: JQDMT11R	Orig Sa DB ID: 9JQDMT10						
STRONTIUM	-1.62E-01	U	5.2E-01	5.2E-01	1.18E+00	pCi/L	93%	-0.14	3/12/07 06:16 p		0.5057	SRTOT_SEP_PRECIP
	1.34E-01	U RPD	-2075.7					-0.63			L	GPC31C
Batch: 7089254	Work Order: JQDMT3A0				Report DB ID: JQDMT30R	Orig Sa DB ID: 9JQDMT30						
BETA	1.83E+01		2.7E+00	3.8E+00	3.45E+00	pCi/L	100%	(5.3)	4/2/07 04:33 p		0.1826	9310_ALPHABETA_G
	1.90E+01	RPD	3.8			4.00E+00		(9.7)			L	GPC31B

Number of Results: 5

Comments:

STL Richland RPD - Relative Percent Difference.

rp1STLRchDupV5.1 MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: #Error

Report No.: 34947

Matrix: WATER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7061238	Work Order: JQD201AA			Report DB ID: JQD201AB								
HEXCHROME	2.00E-03	U		0.0E+00	2.00E-03	mg/L	N/A	1. N/A	3/2/07		100.0 ML	7196_CR6

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V5.1 A2002MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II BLANK RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-478

Report No.: 34947

Matrix: WATER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7064478	Work Order: JQG9F1AA											
H-3	4.19E+01	U	1.4E+02	1.5E+02	3.26E+02	pCi/L	100%	0.13	3/13/07 05:37 p		0.005	906.0_H3_LSC
					1.56E+02	4.00E+02		0.55			L	LSC4
Batch: 7064478	Work Order: JQG9F1AD											
H-3	-1.36E+02	U	1.3E+02	1.5E+02	3.35E+02	pCi/L	100%	-0.41	3/13/07 05:37 p		0.005	906.0_H3_LSC
					1.60E+02	4.00E+02		-(1.9)			L	LSC4

Number of Results: 2

Comments:

STL Richland
rptSTLRchBlank
V6.1 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-479

Report No.: 34947

Matrix: WATER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7064479	Work Order: JQG9G1AA											
TC-99	5.70E+00	U	4.3E+00	6.1E+00	1.00E+01	pCi/L	100%	0.57	3/19/07 09:15 p		0.1254	TC99_SEP_LSC
					4.81E+00	1.50E+01		(1.9)			L	LSC7

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V5.1 A2002MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-480

Report No.: 34947

Matrix: WATER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7084480	Work Order: JQG9H1AA											
ALPHA	3.95E-02	U	5.8E-01	5.8E-01	1.54E+00	pCi/L	100%	0.03	3/28/07 07:35 a		0.2031	RICHRC5014
					6.19E-01	3.00E+00		0.14			L	GPC12C

Number of Results: 1

Comments:

FORM II
BLANK RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-482

Report No.: 34947

Matrix: WATER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Analy Method, Primary Detector
Batch: 7064482	Work Order: JQG9K1AA											
	Report DB ID: JQG9K1AB											
STRONTIUM	3.45E-02	U	5.5E-01	5.5E-01	1.22E+00	pCi/L	80%	0.03	3/12/07 06:16 p		0.5004	SRTOT_SEP_PRECIP
					5.78E-01			0.13			L	GPC31B

Number of Results: 1

Comments:

STL Richland
rptSTLRehBlank
V5.1 A2002MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II BLANK RESULTS

Date: 13-Apr-07

Lab Name: STL Richland
Lot-Sample No.: J7C300000-254

SDG: W05131
Report No.: 34947

Matrix: WATER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 7089254	Work Order: JR3WX1AA											
BETA	2.63E-01	U	1.2E+00	1.2E+00	2.64E+00	pCi/L	100%	0.1	4/2/07 04:33 p		0.1994	9310_ALPHABETA_G
					1.26E+00	4.00E+00		0.44			L	GPC31C

Number of Results: 1

Comments:

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLrchBlank U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.
 V5.1 A2002

FORM II
LCS RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: #Error

Report No.: 34947

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC/MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7061238	Work Order: JQD201AC											
HEXCHROME	5.10E-01		0.0E+00	2.00E-03	mg/L	N/A	5.00E-01		102%	3/2/07	100.0	7196_CR6
						Rec Limits:	85.	115.	0.0		ML	

Number of Results: 1

Comments:

FORM II LCS RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-478

Report No.: 34947

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert (2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7064478	Work Order: JQG9F1AC											
H-3	2.44E+03	2.1E+02	2.5E+02	3.25E+02	pCi/L	100.00%	2.71E+03	8.14E+01	90%	3/13/07 05:37 p	0.005	906.0_H3_LSC
						Rec Limits:	70.	130.	-0.1		L	LSC4
Batch: 7064478	Work Order: JQG9F1AE											
H-3	2.41E+03	2.1E+02	2.6E+02	3.34E+02	pCi/L	100.00%	2.71E+03	8.14E+01	89%	3/13/07 05:37 p	0.005	906.0_H3_LSC
						Rec Limits:	70.	130.	-0.1		L	LSC4

Number of Results: 2

Comments:

FORM II
LCS RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-479

Report No.: 34947

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7064479	Work Order: JQG9G1AC				Report DB ID: JQG9G1CS							
TC-99	5.06E+02	1.3E+01	3.5E+01	9.97E+00	pCi/L	100.00%	5.43E+02	8.65E-01	93%	3/19/07 09:15 p	0.1257	TC99_SEP_LSC
						Rec Limits:	70.	130.	-0.1		L	LSC7

Number of Results: 1

Comments:

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
rptSTLRchLcs
V5.1 A2002

FORM II
LCS RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-480

Report No.: 34947

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC/MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7064480	Work Order: JQG9H1AC											
ALPHA	2.47E+01	3.4E+00	5.0E+00	1.22E+00	pCi/L	100.00%	2.29E+01	6.86E-01	108%	3/28/07 07:35 a	0.2002	RICHRC5014
						Rec Limits:			0.1		L	GPC12D

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C050000-482

Report No.: 34947

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7064482	Work Order: JQG9K1AC				Report DB ID: JQG9K1CS							
STRONTIUM	2.79E+01	1.8E+00	7.6E+00	1.28E+00	pCi/L	79.20%	2.70E+01	5.29E-01	104%	3/12/07 06:16 p	0.5023	SRTOT_SEP_PRECIP
						Rec Limits:	70.	130.	0.0		L	GPC31D

Number of Results: 1

Comments:

FORM II
LCS RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C300000-254

Report No.: 34947

Matrix: WATER

Parameter	Result	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Anal. Method, Primary Detector
Batch: 7089254	Work Order: JR3WX1AC				Report DB ID: JR3WX1CS							
BETA	2.09E+01	2.2E+00	4.5E+00	2.38E+00	pCi/L	100.00%	2.25E+01	2.60E-01	93%	4/2/07 04:33 p	0.1989	9310_ALPHABETA_G
						Rec Limits:	70.	130.	-0.1		L	GPC31D

Number of Results: 1

Comments:

STL Richland Bias $-(\text{Result}/\text{Expected})-1$ as defined by ANSI N13.30.
rptSTLRchLcs
V5.1 A2002

FORM II
MATRIX SPIKE RESULTS

Date: 13-Apr-07

Lab Name: STL Richland

SDG: W05131

Lot-Sample No.: J7C020174-1

Report No.: 34947

Matrix: WATER

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 7061238	Work Order: JQDMT1AQ			Report DB ID: JQDMT1QW		Orig Sa DB ID: 9JQDMT10							
HEXCHROME	2.70E-01			0.0E+00	2.00E-03	mg/L	N/A	103.85%	2.80E-01		3/2/07	100.0	7196_CR6
	2.00E-03											ML	
Batch: 7061238	Work Order: JQDMT1AR			Report DB ID: JQDMT1RW		Orig Sa DB ID: 9JQDMT10							
HEXCHROME	2.70E-01			0.0E+00	2.00E-03	mg/L	N/A	103.85%	2.60E-01		3/2/07	100.0	7196_CR6
	2.00E-03											ML	
Batch: 7064479	Work Order: JQDMT1AV			Report DB ID: JQDMT1VW		Orig Sa DB ID: 9JQDMT10							
TC-99	2.89E+03		3.0E+01	1.8E+02	9.98E+00	pCi/L	100%	80.46%	3.59E+03	1.63E+01	3/19/07 09:15 p	0.1255	TC99_SEP_LSC
	5.45E+01											L	LSC7

Number of Results: 3

Comments:

STL Richland RER - Replicate Error Ratio = $(S-D)/[\sqrt{(sq(TPU_s)+sq(TPU_d))}]$ as defined by ICPT BOA.
 rptSTLRchMs V5.1 Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 A2002

**STL****Data Review/Verification Checklist**
RADIOCHEMISTRY, First Level Review

4/10/2007 12:13:55 PM

Lot No., Due Date: J7C020174; 04/16/2007
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 7064480; RALPHATH Alpha by GPC-Th
SDG, Matrix: W05131; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes No N/A

✓ Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes No N/A

✓ Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes No N/A

✓ Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes No N/A

✓ Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes No N/A

✓ Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A

✓ Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A

✓ Yes No N/A

3.5 Are the sample yields and MDAs within contract limits? Yes No N/A

✓ Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes No N/A

✓ Yes No N/A

4.2 Were analysis volumes entered correctly? Yes No N/A

✓ Yes No N/A

4.3 Were Yields entered correctly? Yes No N/A

✓ Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes No N/A

✓ Yes No N/A

4.5 Were raw counts reviewed for anomalies? Yes No N/A

✓ Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A

✓ Yes No N/A

5.2 Are all required forms filled out? Yes No N/A

✓ Yes No N/A

5.3 Was the correct methodology used? Yes No N/A

✓ Yes No N/A

5.4 Was transcription checked? Yes No N/A

✓ Yes No N/A

5.5 Were all calculations checked at a minimum frequency? Yes No N/A

✓ Yes No N/A

5.6 Are worksheet entries complete and correct? Yes No N/A

✓ Yes No N/A

6.0 Comments or any No response:

NCM 10-09707

First Level Review**Date**

4/10/07

STL Richland

OAS RADCAL Cy4 8.26
STL RICHLAND

Page 1

25



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number:

7064480

W05131

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

See NCR

Second Level Review:

Sheryl R. Adams

Date:

4-11-07

Clouseau Nonconformance Memo

SEVERN
TRENT
SERVICES

NCM #: **10-09707**
NCM Initiated By: Lisa Antonson
Date Opened: 04/10/2007
Date Closed:

Classification: **Deficiency**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Alpha by GPC-Th
Lot #'s (Sample #'s): J7C020174 (1), J7C050000 (480),
QC Batches: 7064480

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/10/2007	When pouring up this Alpha batch, the tech forgot to scan the vial for the LCS. It was noted that ASD was the vial to be used. We took the average of 10 vials that were used during that time to give a value to the LCS. Data accepted.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/10/2007	The tech was notified and will use more caution.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Lot No., Due Date: J7C020174; 04/16/2007
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 7089254; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: W05131; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

✓

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

✓

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

✓

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

✓

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

✓

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

✓

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

✓

4.2 Were analysis volumes entered correctly?

Yes No N/A

✓

4.3 Were Yields entered correctly?

Yes No N/A

✓

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

✓

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

✓

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

✓

5.2 Are all required forms filled out?

Yes No N/A

✓

5.3 Was the correct methodology used?

Yes No N/A

✓

5.4 Was transcription checked?

Yes No N/A

✓

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

✓

5.6 Are worksheet entries complete and correct?

Yes No N/A

✓

6.0 Comments on any No response:

NCM 10-09681

First Level Review



Date

4/14/07



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7089254
W05131

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?		✓	
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See NCM

Second Level Review: Therese A. Adams

Date: 4-4-07

Clouseau Nonconformance Memo

SEVERN
TRENT
SERVICES

NCM #: **10-09681**
NCM Initiated By: Lisa Antonson
Date Opened: 04/04/2007
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Prep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J7C020174 (1), J7C050000 (481),
QC Batches: 7064481

Nonconformance: Dups not within acceptance limits
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	04/04/2007	In this Beta batch, the dups were not within acceptance limits. The batch was rerun (7089254) with acceptable results.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	04/04/2007	None at this time.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note
			<u>Response</u>		<u>Response Note</u>

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Lot No., Due Date: J7C020174; 04/16/2007
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 7064482; RSRTOT SrTot by GPC
SDG, Matrix: W05131; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

✓

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

✓

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

✓

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

✓

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

✓

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

✓

3.2 Is the LOS result, yield, and MDA within contract limits?

Yes No N/A

✓

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

✓

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

✓

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

✓

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

✓

4.2 Were analysis volumes entered correctly?

Yes No N/A

✓

4.3 Were Yields entered correctly?

Yes No N/A

✓

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

✓

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

✓

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

✓

5.2 Are all required forms filled out?

Yes No N/A

✓

5.3 Was the correct methodology used?

Yes No N/A

✓

5.4 Was transcription checked?

Yes No N/A

✓

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

✓

5.6 Are worksheet entries complete and correct?

Yes No N/A

✓

6.0 Comments on any No response:

First Level Review

Paul Anderson

Date

3-13-07



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 7064482
W05131

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review

Sheryl A. Adams

Date 3-14-07

Lot No., Due Date: J7C020174; 04/16/2007
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 7064479; RTC99 Tc-99 by LSC
SDG, Matrix: W05131; WATER

8.0	Correction Calculation Protocol Used.	Yes	No	N/A
	OK	✓		
8.01	The Appropriate Methods Were Used To Analyze the Samples	Yes	No	N/A
	OK	✓		
8.02	Final Results Are in the Appropriate Activity Units	Yes	No	N/A
	OK	✓		
8.03	Batch Contains the Required QC Appropriate for the Method	Yes	No	N/A
	OK	✓		
8.04	The Correct Tracer and QC Vials Where Used in the Samples	Yes	No	N/A
	Incorrect Tracer/Vial => JQDMT1AV TCSG<->TCSE Q:V9			✓
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample	Yes	No	N/A
	OK	✓		
8.06	At Least the Minimum Sample Volume Was Used	Yes	No	N/A
	OK	✓		
8.07	The Correct Count Geometry was Used.	Yes	No	N/A
	OK	✓		
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved.	Yes	No	N/A
	OK	✓		
8.09	Method Blank is within Control Limits.	Yes	No	N/A
	OK	✓		
8.1	Comments:			
8.11	Matrix Blank is within Control Limits.	Yes	No	N/A
	No Matrix Blanks (MBLs) found in Batch!			✓
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary).	Yes	No	N/A
	OK	✓		
8.13	QAS Specified Duplicate Equation Value within Control Limits.	Yes	No	N/A
	OK (RPD)	✓		
8.14	LCS within Control Limits.	Yes	No	N/A
	OK	✓		
8.15	MLCS within Control Limits.	Yes	No	N/A
	No Matrix Spikes (MLCS) found in Batch!			✓
8.16	MS within Control Limits.	Yes	No	N/A
	OK	✓		
8.17	Tracer within Control Limits.	Yes	No	N/A
	No Tracers found in Batch!			✓
8.18	Samples are above Minimum Tracer Yield (No Failed Samples)	Yes	No	N/A
	No Tracers found in Batch!			✓
8.19	Sample Specific MDC <= CRDL.	Yes	No	N/A
	OK	✓		
8.2	Comments:			
8.21	Result < Lc, Activity Not Detected, U Flag.	Yes	No	N/A
	No Limit Specified!			✓
8.22	Result < Mdc, Activity Not Detected, U Flag.	Yes	No	N/A
	No Positive Results	✓		
	OK Calc_IDL Not Calculated			
8.23	Result <= Action Level, when Defined.	Yes	No	N/A
	OK; No Action Level Found => TC-99	✓		
	OK; No Callin Level Found => TC-99			
8.24	Result + 3s >=0, Not Too Negative.	Yes	No	N/A
	OK	✓		
8.25	Counting Spectrum are within FWHM Limits.	Yes	No	N/A
	No FWHM found in Batch Data!			✓

8.26 Instruments have Current Calibrations.

Yes No N/A

8.27 Correct Count Library Used.

Yes No N/A

No Count Library found in Batch Data!

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions.)

Yes No N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions.)

Yes No N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate.

Yes No N/A

OK

First Level Review

Paul Anderson

Date 3-20-07

STL Richland

OAS RADCALCv4.8.26

Page 2

STL RICHLAND

34



STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number:

7064479
W05131

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review

Sheryl A. Adams

Date: 5-21-07

Lot No., Due Date: J7C020174; 04/18/2007
Client, Site: 108302; FLH HANFORD
QC Batch No., Method Test: 7064478; RTRITIUM H-3 by LSC
SDG, Matrix: W05131; WATER

8.0	Correction: Calculation Protocol Used.	OK	Yes	No	N/A
8.01	The Appropriate Methods Were Used To Analyze the Samples	OK	Yes	No	N/A
8.02	Final Results Are in the Appropriate Activity Units	OK	Yes	No	N/A
8.03	Batch Contains the Required QC Appropriate for the Method	OK	Yes	No	N/A
8.04	The Correct Tracer and QC Vials Were Used in the Samples	OK	Yes	No	N/A
8.05	Sample was Appropriately Traced Before or After Fractionating the Sample	OK	Yes	No	N/A
8.06	At Least the Minimum Sample Volume Was Used Analysis Volume => JQDMT1AC 5.00<10.00 Q:VB	OK AL 3/14/07	Yes	No	N/A
8.07	The Correct Count Geometry was Used. Count Geometry => JQG9F1AF SVP15/5<>SVP10/10 JQG9F1AG SVP15/5<>SVP10/10 JQG9F1AA SVP15/5<>SVP10/10 JQG9F1AC SVP15/5<>SVP10/10 JQG9F1AD SVP15/5<>SVP10/10 JQG9F1AE SVP15/5<>SVP10/10 JQDMT1AC SVP15/5<>SVP10/10 JQDMT1AU SVP15/5<>SVP10/10 Q:VC	OK AL 3/14/07	Yes	No	N/A
8.08	The Sample was Counted for the Minimum Count Time or CRDL was Achieved.	OK	Yes	No	N/A
8.09	Method Blank is within Control Limits.	OK	Yes	No	N/A
8.1	Comments:				
8.11	Matrix Blank is within Control Limits.	OK	Yes	No	N/A
8.12	Method Blank(s) < QAS Limit Value (No B Flag Necessary).	OK	Yes	No	N/A
8.13	QAS Specified Duplicate Equation Value within Control Limits.	OK (RPE)	Yes	No	N/A
8.14	LCS within Control Limits.	OK	Yes	No	N/A
8.15	MLCS within Control Limits.	OK	Yes	No	N/A
8.16	MS within Control Limits. No Matrix Spike Samples (MS) found in Batch!		Yes	No	N/A
8.17	Tracer within Control Limits. No Tracers found in Batch!		Yes	No	N/A
8.18	Samples are above Minimum Tracer Yield (No Failed Samples) No Tracers found in Batch!		Yes	No	N/A
8.19	Sample Specific MDC <= CRDL.	OK	Yes	No	N/A
8.2	Comments:				
8.21	Result < Lc, Activity Not Detected, U Flag. No Limit Specified!		Yes	No	N/A
8.22	Result < Mdc, Activity Not Detected, U Flag. No Positive Results OK Calc IDL Not Calculated		Yes	No	N/A
8.23	Result <= Action Level, when Defined. OK; No Action Level Found => H-3		Yes	No	N/A

OK; No Callin Level Found => H-3

8.24 Result + 3s >=0, Not Too Negative.

OK

Yes No N/A

✓

8.25 Counting Spectrum are within FWHM Limits.

No FWHM found in Batch Data!

Yes No N/A

✓

8.26 Instruments have Current Calibrations.

Yes No N/A

✓

8.27 Correct Count Library Used.

No Count Library found in Batch Data!

Yes No N/A

✓

8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions.)

Yes

No

N/A

8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later versions.)

Yes

No

N/A

8.3 Comments:

8.31 Results Blank Subtracted as Appropriate.

OK

Yes No N/A

✓

First Level Review

Angela Long

Date

3/14/07

STL Richland

QAS_RADCALCv4.8.26

Page 2

STL RICHLAND

37

SEVERN
TRENT

STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number:

7064478
W05131

Review Item	Yes (✓)	No (✓)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review

Sheryl A. Adams

Date: *3-14-07*

Work Order Number(s): JQD20, JQDMT				
Lab Sample Numbers or SDG: W05731				
Method/Test/Parameter: Cr+6 in Water / RICH-WC-5003				
Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
A. Initial Calibration	✓			/
1. Performed at required frequency with required number of levels?	✓			/
2. Correlation coefficient within QC limits?	✓			/
3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits?	✓			/
4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit?	✓			/
B. Continuing Calibration	✓			/
1. CCV analyzed at required frequency and all parameters within QC limits?	✓			/
2. CCB analyzed at required frequency and all results ≤ reporting limit?	✓			/
C. Sample Analysis			✓	/
1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed?	✓			/
2. Were all sample holding times met?	✓			/
D. QC Samples	✓			/
1. All results for the preparation blank below limits?	✓			/
2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable?	✓			/
3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable?	✓			/
4. Analytical spikes within QC limits where applicable?			✓	/
5. ICP only: One serial dilution performed per SDG?			✓	/
6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency?			✓	/
7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits?			✓	/

Review Item	Yes (✓)	No (✓)	N/A (✓)	2 nd Level Review (✓)
E. Other			✓	/
1. Are all nonconformances included and noted?				/
2. Is the correct date and time of analysis shown?	✓			/
3. Did the analyst sign and date the front page of the analytical run?	✓			/
4. Correct methodology used?	✓			/
5. Transcriptions checked?	✓			/
6. Calculations checked at minimum frequency?	✓			/
7. Units checked?	✓			/

Comments on any "No" response:

Analyst: _____

Date: 3/2/07

Second-Level Review: _____

Date: 4-16-07

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-011-079

PAGE 1 OF 1

COLLECTOR

Pepc/Pfister/Hughes/Wise

SAMPLING LOCATION

AT-B-5-D

ICE CHEST NO.

COMPANY CONTACT

TRENT, SJ

TELEPHONE NO.

373-5869

PROJECT COORDINATOR

TRENT, SJ

PRICE CODE 7N

DATA
TURNAROUND

AIR QUALITY

45 Days /
45 Days

PROJECT DESIGNATION

AQUIFER TUBE SAMPLING IN THE 100-BC-5 OU

SAF NO.
F07-011

FIELD LOGBOOK NO.

HNF-M-451-1

COA

122543ES10

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

J7C 020174

W05131

Due 04-16-07

SHIPPED TO

Seyern Trent Incorporated, Richland

OFFSITE PROPERTY NO.

N/A

BILL OF LADING/AIR BILL NO.

N/A

MATRIX*

A=Air
DL=Drum
Liquids
DS=Drum
Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Water
WS=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations
that are not regulated for transportation per 49
CFR but are not releasable per DOE Order
5400.5 (1990/1993)

PRESERVATION

Cool 4C

HNO3 to pH
<2HNO3 to pH
<2

HCl to pH <2

None

TYPE OF CONTAINER

aG

P

P

P

P

NO. OF CONTAINER(S)

1

1

3

3

1

VOLUME

500mL

1000mL

1000mL

1000mL

1000mL

SPECIAL HANDLING AND/OR STORAGE

SAMPLE ANALYSIS

Chromium Hex -
7196;Gross Alpha;
Gross Beta;Strontium-
89,90 - Total Sr;

Technetium-99;

Tritium - H3;

SAMPLE NO.

B1LTY8

MATRIX*

WATER

SAMPLE DATE

3/1/07

SAMPLE TIME

0941

✓

✓

✓

✓

✓

JQDMT

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM

DATE/TIME

KHUGHES/PA/3-1-07/12:30

RELINQUISHED BY/REMOVED FROM

DATE/TIME

MO-745 FRIDGE/3-1-07/1530

RELINQUISHED BY/REMOVED FROM

DATE/TIME

R. P. PETERSON/3-1-07/1540

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

MO 745 FRIDGE/3-1-07/12:30

RECEIVED BY/STORED IN

DATE/TIME

R. P. PETERSON/3-1-07/1530

RECEIVED BY/STORED IN

DATE/TIME

R. P. PETERSON/3-1-07/1540

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

LABORATORY
SECTION

RECEIVED BY

TITLE

DATE/TIME

FINAL SAMPLE
DISPOSITION

DISPOSAL METHOD

DISPOSED BY

DATE/TIME



STL

Sample Check-in List

Date/Time Received: 3/2/07 1540

Client: PNL SDG #: W05131 NA ☐ SAF #: F07-011 NA ☐

Work Order Number: J7C020174 Chain of Custody # F07-011-079

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA ☐ Yes ☒ No ☐
2. Custody Seals dated and signed? NA ☐ Yes ☒ No ☐
3. Chain of Custody record present? Yes ☒ No ☐
4. Cooler temperature: _____ NA ☒ 5. Vermiculite/packing materials is NA ☒ Wet ☐ Dry ☐
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA ☐ Yes ☐ No ☐
8. Samples have:
_____ tape _____ hazard labels
_____ custody seals _____ appropriate samples labels
9. Samples are:
_____ in good condition _____ leaking
_____ broken _____ have air bubbles
(Only for samples requiring head space)
10. Sample pH taken? NA ☐ pH < 2 ☒ pH > 2 ☒ adjusted pH ☐
11. Sample Location, Sample Collector Listed? * Yes ☒ No ☐
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes ☐ No ☒
13. Description of anomalies (include sample numbers): _____

Sample Custodian: Euse Darby Date: 3/1/07 1540

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 12/05, Rev. 6

STL RICHLAND

3/27/2007 6:33:56 PM

Sample Preparation/Analysis

Balance Id: 1120482733

108302, Fluor Hanford Inc
Management Federal Servi

, Waste

AZ Gross Alpha PrpRC5014

Pipet #: 245

AnalyDueDate: 04/11/2007

TZ Gross Alpha by GPC using Th-230 curve

Sep1 DT/Tm Tech:

01 STANDARD TEST SET

Sep2 DT/Tm Tech:

Batch: 7064480

WATER





pCi/L

PM, Quote: SA, 29754

SEQ Balch, Test: None All Tests: 7061236 BCS8, 7061238 88EA, 7064478 ARS6, 7064479 AMS5, 7064480 AZTZ, 7064481 BCS8, 7064482

CGTH,

Prep Tech: BockJ

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JQDMT-1-AE J7C020174-1-SAMP 03/01/2007 09:41	199.80g,in				36.7mg	50				
										
	AmtRec: 500MLP,8XLP	#Containers: 9						Alpha: -1.70E-03 uCi/Sa	Beta: 2.39E-03 uCi/Sa	1.7E-01L
2 JQDMT-1-AX-X J7C020174-1-DUP 03/01/2007 09:41	202.10g,in				39.1mg	50				
										
	AmtRec: 500MLP,8XLP	#Containers: 9						Alpha: -1.70E-03 uCi/Sa	Beta: 2.39E-03 uCi/Sa	1.7E-01L
3 JQG9H-1-AA-B J7C050000-480-BLK 03/01/2007 09:41	203.10g,in				1mg	50				
										
	AmtRec:	#Containers: 1						Alpha:	Beta:	
4 JQG9H-1-AC-C J7C050000-480-LCS 03/01/2007 09:41	200.20g,in				2mg	50				
										
	AmtRec:	#Containers: 1						Alpha:	Beta:	

Comments: JQDMT-SAMP

DH 3/27/2007

All Clients for Batch:

108302, Fluor Hanford Inc

Waste Management Federal Servi, SA, 29754

JQDMT1AE-SAMP Constituent List:

ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
JQG9H1AA-BLK:					
ALPHA	RDL:3	pCi/L	LCL:	UCL:	RPD:
JQG9H1AC-LCS:					
Am-241	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

STL Richland

Key: in - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktalled Added

Prep_SamplePrep v4.8.26

STL RICHLAND

3/27/2007 6:34:01 PM

Sample Preparation/Analysis

Balance Id:1120482733

AZ Gross Alpha PrpRC5014

Pipet #:

TZ Gross Alpha by GPC using Th-230 curve

Sep1 DT/Tm Tech:

AnalyDueDate: 04/11/2007

01 STANDARD TEST SET

Sep2 DT/Tm Tech:

Batch: 7064480

pCi/L

Prep Tech: ,BockJ

SEQ Batch, Test: None

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
QUANTITY-SAMP Calc Info:										
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: A										
UQG9H1AA-BLK:										
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: A										
UQG9H1AC-LCS:										
Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: A										

Approved By

Date:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Prep_SamplePrep v4.8.26

4/10/2007 12:12:12 PM

ICOC Fraction Transfer/Status Report

ByDate: 4/10/2006, 4/15/2007, Batch: '7064480', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7064480				
AC		InCnt1	BockJ	3/21/2007 1:38:53 PM
SC			wagar	IsBatched 3/5/2007 4:47:17 PM
SC			BockJ	InPrep 3/21/2007 1:38:53 PM
SC			BockJ	Prep1C 3/21/2007 1:44:12 PM
SC			AshworthA	InPrep2 3/27/2007 8:58:25 AM
SC			HARBINSOND	Prep1C 3/27/2007 6:20:57 PM
SC			DAWKINSO	InCnt1 3/27/2007 7:10:02 PM
AC			BockJ	3/21/2007 1:44:12 PM
AC			AshworthA	3/27/2007 8:58:25
AC			HARBINSOND	3/27/2007 6:20:57 PM
AC			DAWKINSO	3/27/2007 7:10:02 PM

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.26

STL RICHLAND

45

SEVERN
TRENT

STL

*** RE-ANALYSIS REQUEST ***

DUE DATE 4-11

CUSTOMER FLUOR

ANALYSIS Beta

MATRIX water

LOT NUMBER J7C020174

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 7044481

NEW BATCH NUMBER 70444 7089254
PA 3-2001

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) <u>All</u>	<u>dup out.</u>
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	
LAB QC ID	Assigned with new batch.

RC-048, 10/03, Rev 7

STL RICHLAND

4/2/2007 9:38:15 AM

Sample Preparation/Analysis

Balance Id:1120482733

108302, Fluor Hanford Inc
Management Federal Servi

, Waste

BC Gross Beta PrpRC5014

S8 Gross Beta by GPC using Sr/Y-90 curve

SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 04/11/2007

Sep1 DT/Tm Tech:

Batch: 7089254 WATER pCi/L


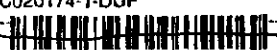


PM, Quote: SA, 29754

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 7061236 BCS8, 7061238 88EA, 7064478 ARS6, 7064479 AMS5, 7064480 AZTZ, 7064481 BCS8, 7064482

CGTH, 7089254 BCS8,

Prep Tech: BockJ

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JQDMT-3-AA J7C020174-1-SAMP 	152.10g/in									
03/01/2007 09:41										
2 JQDMT-3-A0-X J7C020174-1-DUP 	162.60g/in									
03/01/2007 09:41										
3 JR3WX-1-AA-B J7C300000-254-BLK 	199.40g/in									
03/01/2007 09:41										
4 JR3WX-1-AC-C J7C300000-254-LCS 	198.90g/in		BESB3039 02/26/07.pd 08/08/06.r							
03/01/2007 09:41										

Comments: JQDMT-SAMP "Aliquots reduced due to no more sample left. JB 04/02/07"

PH < 2.0 98 4-2-07

All Clients for Batch:

108302, Fluor Hanford Inc

Waste Management Federal Servi, SA, 29754

JQDMT3AA-SAMP Constituent List:

BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
JR3WX1AA-BLK:					
BETA	RDL:4	pCi/L	LCL:	UCL:	RPD:
JR3WX1AC-LCS:					
Sr-90	RDL:	pCi/L	LCL:70	UCL:130	RPD:20

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, si - Sep1, s2 - Sep2 Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktalled Added

Prep_SamplePrep v4.8.26

STL RICHLAND

4/2/2007 9:38:20 AM

Sample Preparation/Analysis

Balance Id:1120482733

BC Gross Beta PrpRC5014

Pipet #:

S8 Gross Beta by GPC using Sr/Y-90 curve

Sep1 DT/Tm Tech:

SI CLIENT: HANFORD

Sep2 DT/Tm Tech:

AnalyDueDate: 04/11/2007

Batch: 7089254

pCi/L

Prep Tech: ,BockJ

SEQ Batch, Test: None

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
JQDWT3AA-SAMP Calc Info:										
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
JR3WX1AA-BLK:										
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
JR3WX1AC-LCS:										
Uncert Level (#s): 2		Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					

Approved By

Date:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 4
Prep_SamplePrep v4.8.26

40

4/4/2007 8:04:59 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/4/2006, 4/9/2007, Batch: '7089254', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7089254				
AC	InCnt1	BockJ	4/2/2007 9:24:01 AM	
SC		andersonp	IsBatched	3/30/2007 11:23:17 AM
SC		BockJ	InPrep	4/2/2007 9:24:01 AM
SC		BockJ	Prep1C	4/2/2007 9:38:22 AM
SC		AshworthA	InPrep2	4/2/2007 10:00:15 AM
SC		AshworthA	Prep2C	4/2/2007 2:29:50 PM
SC		DAWKINSO	InCnt1	4/2/2007 6:37:05 PM
AC		BockJ		4/2/2007 9:38:22 AM
AC		AshworthA		4/2/2007 10:00:15
AC		AshworthA		4/2/2007 2:29:50 PM
AC		DAWKINSO		4/2/2007 6:37:05 PM
AC		DAWKINSO		4/2/2007 7:54:41 PM

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt:6

ICOCFractions v4.8.26

STL RICHLAND

49

STL RICHLAND

3/12/2007 1:50:34 PM

Sample Preparation/Analysis

Balance Id:1120482733

108302, Fluor Hanford Inc
Management Federal Servi

, Waste

CG Sr-Total Prp/SepRC5006

TH Total Strontium by GPC

SI CLIENT: HANFORD

Pipet #:

Sep1 DT/Tm Tech: 03/12/2007 10:23,ManisD

AnalyDueDate: 04/11/2007

Sep2 DT/Tm Tech:

Batch: 7064482 WATER

pCi/L

PM, Quote: SA , 29754

Prep Tech: ,BockJ

SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	GR Analyst, Init/Date	Comments:
1 JQDMT-1-AH J7C020174-1-SAMP 03/01/2007 09:41			499.30g, in	499.30g	srla16626 02/28/07, pd 09/11/06, r	1.5	92.5	100	31A	1905	3/12/07010	
			AmtRec: 500MLP, 8XLP		#Containers: 9	03/12/2007 10:23, s1			Scr:	Alpha: -1.70E-03 uCi/Sa	Beta: 2.39E-03 uCi/Sa	1.7E-01L
2 JQDMT-1-A1-X J7C020174-1-DUP 03/01/2007 09:41			505.70g, in	505.70g	srla16627 02/28/07, pd 09/11/06, r	1.5	93	100	31C			
			AmtRec: 500MLP, 8XLP		#Containers: 9	03/12/2007 10:23, s1			Scr:	Alpha: -1.70E-03 uCi/Sa	Beta: 2.39E-03 uCi/Sa	1.7E-01L
3 JQG9K-1-AA-B J7C050000-482-BLK 03/01/2007 09:41			500.40g, in	500.40g	srla16628 02/28/07, pd 09/11/06, r	1.5	80.1	100	31B			
			AmtRec:		#Containers: 1	03/12/2007 10:23, s1			Scr:	Alpha:	Beta:	
4 JQG9K-1-AC-C J7C050000-482-LCS 03/01/2007 09:41			502.30g, in	502.30g	stsc1825 01/24/07, pd 09/11/06, r	1.5	79.2	100	31D			
			AmtRec:		#Containers: 1	03/12/2007 10:23, s1			Scr:	Alpha:	Beta:	

Comments:

All Clients for Batch:

108302, Fluor Hanford Inc

Waste Management Federal Servi, SA , 29754

JQDMT1AH-SAMP Constituent List:

Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20

JQG9K1AA-BLK: Sr-90 RDL:2 pCi/L LCL: UCL: RPD:

JQG9K1AC-LCS: Sr-90 RDL:2 pCi/L LCL:70 UCL:130 RPD:20

JQDMT1AH-SAMP Calc Info:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 4

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Prep_SamplePrep v4.8.26

50

STL RICHLAND

3/12/2007 1:50:39 PM

Sample Preparation/Analysis

Balance Id:1120482733

CG Sr-Total Prp/SepRC5006

Pipet #:

TH Total Strontium by GPC

Sep1 DT/Tm Tech: 03/12/2007 10:23,ManisD

AnalyDueDate: 04/11/2007

51 CLIENT: HANFORD


Sep2 DT/Tm Tech:

Batch: 7064482

pCi/L

Prep Tech: ,BockJ

SEQ Batch, Test: None

Work Ord, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
												
Uncert Level (#s): 2			Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y		ODRs: B					
JQG9K1AA-BLK:												
Uncert Level (#s): 2			Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y		ODRs: B					
JQG9K1AC-LCS:												
Uncert Level (#s): 2			Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y		ODRs: B					

Approved By

Date:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 4
Prep_SamplePrep v4.8.26

51

3/13/2007 2:10:56 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/13/2006, 3/18/2007, Batch: '7064482', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7064482				
AC	CalcC	BockJ	3/7/2007 1:28:07 PM	
SC		wagerr	IsBatched 3/5/2007 4:47:17 PM	ICOC_RADCALC v4.8.26
SC		BockJ	InPrep 3/7/2007 1:28:07 PM	rich-rc-5014 REVISION 6
SC		BockJ	Prep1C 3/7/2007 1:35:51 PM	RICH-RC-5016 REVISION 6
SC		ManisD	InSep1 3/7/2007 3:59:09 PM	RICH-RC-5006 REV 6
SC		ManisD	Sep1C 3/12/2007 1:47:14 PM	RICH-RC-5006 REV 6
SC		BlackCL	InCnt1 3/12/2007 1:55:25 PM	RICH-RD-0003 REVISION 4
SC		DAWKINSO	CalcC 3/12/2007 9:08:54 PM	RICH-RD-0003 REVISION 4
AC		BockJ	3/7/2007 1:35:51 PM	
AC		ManisD	3/7/2007 3:59:09 PM	
AC		ManisD	3/12/2007 1:47:14 PM	
AC		BlackCL	3/12/2007 1:55:25 PM	
AC		DAWKINSO	3/12/2007 9:08:54 PM	

AC: Accepting Entry, SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt:6

ICOCFractions v4.8.26

STL RICHLAND

52

3/7/2007 2:52:58 PM

Sample Preparation/Analysis

Balance Id:1120482733

108302, Fluor Hanford Inc
Management Federal Servi

, Waste

AM Tc-99 Prp/SepRC5078
S5 Technetium-99 by Liquid Scint
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 04/11/2007 W0531

Sep1 DT/Tm Tech:

Batch: 7064479 WATER pCvL
SEQ Batch, Test: None

PM, Quote: SA, 29754

Sep2 DT/Tm Tech:

Prep Tech: BockJ

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JQDWT-1-AF J7C020174-1-SAMP 03/01/2007 09:41	125.10g,ln			600				
2 JQDWT-1-AV-S J7C020174-1-MS 03/01/2007 09:41	125.50g,ln		TCSG1780 02/28/07,pd 01/10/06,r					
3 JQDWT-1-AW-X J7C020174-1-DUP 03/01/2007 09:41	125.40g,ln							
4 JQG9G-1-AA-B J7C050000-479-BLK 03/01/2007 09:41	125.40g,ln							
5 JQG9G-1-AC-C J7C050000-479-LCS 03/01/2007 09:41	125.70g,ln		TCSE2084 02/21/07,pd 01/10/06,r					
6 JQG9G-1-AD-BN J7C050000-479-IBLK 03/01/2007 09:41								

STL Richland
Richland Wa.Key: ln - Initial Amt, fl - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 6
Prep_SamplePrep v4.8.26

STL RICHLAND

3/7/2007 2:53:02 PM

Sample Preparation/Analysis

Balance Id:

AM Tc-99 Prp/SepRC5078
 S5 Technetium-99 by Liquid Scint
 51 CLIENT: HANFORD

Pipet #:

AnalyDueDate: 04/11/2007

Sep1 DT/Tm Tech:

Batch: 7064479

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
--------------------------------------	-------------------	-----------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

Comments: 74 L2.0 98 3-7-07

All Clients for Batch:

108302, Fluor Hanford Inc

Waste Management Federal Servi, SA, 29754

JQDMT1AF-SAMP Constituent List:

Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

JQDMT1AV-MS Constituent List:

JQG9G1AA-BLK:

Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

JQG9G1AC-LCS:

Tc-99 RDL:15 pCi/L LCL:70 UCL:130 RPD:20

JQG9G1AD-IBLK:

Tc-99 RDL:15 pCi/L LCL: UCL: RPD:

JQDMT1AF-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQDMT1AV-MS Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQG9G1AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQG9G1AC-LCS:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQG9G1AD-IBLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By

Date:

STL Richland
 Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
 pd - Prep Dt, r - Reference Dt, ec - Enrichment Cell, ct - Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 6

Prep_SamplePrep v4.8.26

54

3/20/2007 3:43:28 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/20/2006, 3/25/2007, Batch: '7064479', User: 'ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
	7064479				
AC		CalcC	BockJ	3/7/2007 2:45:36 PM	
SC			wagarr	IsBatched 3/5/2007 4:47:17 PM	ICOC_RADCALC v4.8.26
SC			BockJ	InPrep 3/7/2007 2:45:36 PM	rich-rs-5014 REVISION 6
SC			BockJ	Prep1C 3/7/2007 2:53:03 PM	RICH-RC-5016 REVISION 6
SC			FABREM	Sep1C 3/19/2007 9:16:06 AM	RICH-RC-5078 REVISION 3
SC			BlackCL	InCnt1 3/19/2007 9:19:45 AM	RICH-RD-0001 REVISION 3
SC			BlackCL	CalcC 3/20/2007 7:16:55 AM	RICH-RD-0001 REVISION 3
AC			BockJ	3/7/2007 2:53:03 PM	
AC			FABREM	3/19/2007 9:16:06	
AC			BlackCL	3/19/2007 9:19:45	
AC			BlackCL	3/20/2007 7:16:55	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.26

STL RICHLAND








55

3/5/2007 4:46:10 PM
 108302, Fluor Hanford Inc
 Management Federal Servi
 Analy Due Date: 04/11/2007 **W05131**
 Batch: 7064478 WATER pCi/L
 SEQ Batch, Test: None

Sample Preparation/Analysis

AR H-3 Prp/SepRC5007
 S6 Tritium by Liquid Scint
 SI CLIENT: HANFORD

Balance Id: **12929**
 Pipet #:
 Sep1 DT/Tm Tech: **3-12-07an**
 Sep2 DT/Tm Tech:
 Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JQDMT-1-AC								
J7C020174-1-SAMP								
								
03/01/2007 09:41		AmtRec: 500MLP,BXLP	#Containers: 9			Scr:	Alpha:	Beta:
2 JQDMT-1-AU-X								
J7C020174-1-DUP								
								
03/01/2007 09:41		AmtRec: 500MLP,BXLP	#Containers: 9			Scr:	Alpha:	Beta:
3 JQG9F-1-AA-B								
J7C050000-478-BLK								
								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 JQG9F-1-AC-C								
J7C050000-478-LCS								
								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5 JQG9F-1-AD-BX								
J7C050000-478-MBLK								
								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JQG9F-1-AE-CM								
J7C050000-478-MLCS								
								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
7 JQG9F-1-AF-BN								
J7C050000-478-IBLK								
								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
<div style="display: flex; justify-content: space-between; font-size: small;"> <div>STL Richland Richland Wa.</div> <div>Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec - Enrichment Cell, ct - Cocktailed Added</div> <div>Page 1</div> <div>ISV - Insufficient Volume for Analysis</div> <div>WO Cnt: 7 ICOC v4.8.28</div> </div>								

3/5/2007 4:46:12 PM

Sample Preparation/Analysis

Balance Id: 12424

AR H-3 Prp/SepRC5007
S6 Tritium by Liquid Scint
SI CLIENT: HANFORD

Pipet #:

Sep1 DT/Tm Tech: 3-12-07 *dm*

Sep2 DT/Tm Tech:

Prep Tech:

AnalyDueDate: 04/11/2007

Batch: 7064478

pCi/L

SEQ Batch, Test: None

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
--------------------------------------	-------------------	-----------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

8 JQG9F-1-AQ-BN

J7C050000-478-IBLK



03/01/2007 09:41

AmtRec:

#Containers: 1

Scr:

Alpha:

Beta:

Comments:

All Clients for Batch:

108302, Fluor Hanford Inc

Waste Management Federal Servi, SA, 29754

JQDMT1AC-SAMP Constituent List:

H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20
JQG9F1AA-BLK:					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:
JQG9F1AC-LCS:					
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20
JQG9F1AD-MBLK:					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:
JQG9F1AE-MLCS:					
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20
JQG9F1AF-IBLK:					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:
JQG9F1AG-IBLK:					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:

JQDMT1AC-SAMP Calc Info:

Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JQG9F1AA-BLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JQG9F1AC-LCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JQG9F1AD-MBLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JQG9F1AE-MLCS:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B
JQG9F1AF-IBLK:				
Uncert Level (#s): 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B

STL Richland

Key: In - Initial Amt, fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 8

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktalled Added

ICOC v4.8.26

STL RICHLAND

3/5/2007 4:46:12 PM

Sample Preparation/Analysis

Balance Id: 12424

AR H-3 Prp/SepRC5007
S6 Tritium by Liquid Scint
SI CLIENT: HANFORD

Pipet #:

AnalyDueDate: 04/11/2007

Sep1 DT/Tm Tech: 3-12 07

Batch: 7064478

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
--------------------------------------	-------------------	-----------------------------	------------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

JG09FLAG-IBLK:

Uncert Level (#s): 2 Decay to Sadt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____

Date: _____

STL Richland
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 3

ISV - Insufficient Volume for Analysis

WO Cnt: 8

ICOC v4.8.26

3/14/2007 1:24:24 PM

ICOC Fraction Transfer/Status Report

ByDate: 3/14/2006, 3/19/2007, Batch: '7064478', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
7064478				
AC	CalcC	McDowellID	3/12/2007 11:14:25	
SC		wagarr	IsBatched 3/5/2007 4:47:17 PM	ICOC_RADCALC v4.8.26
SC		McDowellID	InSep1 3/12/2007 11:14:25 AM	RICH-RC-5007 REVISION 6
SC		McDowellID	Sep1C 3/13/2007 10:02:20 AM	RICH-RC-5007 REVISION 6
SC		BlackCL	CalcC 3/14/2007 6:35:18 AM	RICH-RD-0001 REVISION 3
AC		McDowellID	3/13/2007 10:02:20	
AC		BlackCL	3/14/2007 6:35:18	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt:3

ICOCFractions v4.8.26

STL RICHLAND

STL RICHLAND

3/2/2007 11:12:14 AM

Sample Preparation/Analysis

Balance Id:

108302, Fluor Hanford Inc
Management Federal Servi

, Waste

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
EA Chromium, Hexavalent (7196A)

Pipet #:

AnalyDueDate: 04/11/2007

01 STANDARD TEST SET



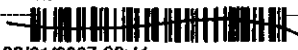
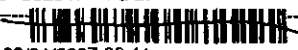


Sep1 DT/Tm Tech:

Batch: 7061238 WATER ug/L
SEQ Batch, Test: None All Tests: 7061238 88EA,

PM, Quote: SA , 29754

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count: On Off (24hr) Circle	CR Analyst, Int'l/Date	Comments:
1 JQDMT-1-AD J7C020174-1-SAMP 								
03/01/2007 09:41		AmtRec: 500MLP,8XLP	#Containers: 8			Scr:	Alpha:	Beta:
2 JQDMT-1-AQ-S J7C020174-1-MS 								
03/01/2007 09:41		AmtRec: 500MLP,8XLP	#Containers: 9			Scr:	Alpha:	Beta:
3 JQDMT-1-AR-D J7C020174-1-MSD 								
03/01/2007 09:41		AmtRec: 500MLP,8XLP	#Containers: 8			Scr:	Alpha:	Beta:
4 JQDMT-1-AT-X J7C020174-1-DUP 								
03/01/2007 09:41		AmtRec: 500MLP,8XLP	#Containers: 8			Scr:	Alpha:	Beta:
5 JQD20-1-AA-B J7C020000-238-BLK 								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
6 JQD20-1-AC-C J7C020000-238-LCS 								
03/01/2007 09:41		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 6

ICOC v4.8.26

01

STL RICHLAND

3/2/2007 11:12:22 AM

Sample Preparation/Analysis

Balance Id: _____

88 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

Pipet #: _____

EA Chromium, Hexavalent (7196A)

Sep1 DT/Tm Tech: _____

AnalyDueDate: 04/11/2007

01 STANDARD TEST SET

Sep2 DT/Tm Tech: _____

Batch: 7061238

ug/L

SEQ Batch, Test: None

Prep Tech: _____

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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Comments:

All Clients for Batch:

108302, Fluor Hanford Inc

Waste Management Federal Servi, SA, 29754

JQDNT1AD-SAMP Constituent List:

HEXCHROME RDL: ug/L LCL:85 UCL:115 RPD:20

JQDNT1AQ-MS Constituent List:

HEXCHROME RDL:10 ug/L LCL:85 UCL:115 RPD:20

JQDNT1AR-MSD:

HEXCHROME RDL:10 ug/L LCL:85 UCL:115 RPD:20

JQD201AA-BLK:

HEXCHROME RDL: ug/L LCL: UCL: RPD:

JQD201AC-LCS:

HEXCHROME RDL:10 ug/L LCL:85 UCL:115 RPD:20

JQDNT1AD-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQDNT1AQ-MS Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQDNT1AR-MSD:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQD201AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JQD201AC-LCS:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____

Date: _____

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec - Enrichment Cell, ct - Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 6

ICOC v4.8.26

601